REMARKS

Claims 14-35, 37-46, and 49-51 are rejected. Claims 14, 18-20 have been amended. Claims 15, 17, and 21 have been canceled. Claims 14, 16, 18-20, 22-35, 37-46, and 49-51 are presently pending in the application. Favorable reconsideration of the application in view of the following remarks is respectfully requested.

The basis for the amendment of claim 14 is found in claims 15 and 17 as presented in a response dated June 21, 2004.

Double Patenting:

The Examiner indicates that the Double Patenting rejection over application 10/008,428 has not been received by the Office. In a response mailed June 21, 2004, the applicants included 2 terminal disclaimers, one of which related to application 10/008,428. Evidence of receipt of both disclaimers is provided by the attached postcard, returned by the Office, bearing an OIPE stamp dated June 23, 2004. A copy of the missing terminal disclaimer is also attached to expedite matters. Therefore, the Applicants request that the Examiner withdraw the rejection.

Rejection Of Claims 14-34, 37-46, 49-51 Under 35 U.S.C. §103(a):

The Examiner has rejected Claims 14-35, 37-46 and 49-53 under 35 U.S.C. 103(a) as being unpatentable over FISCHER (US 6,579,927), as the prior art of FISCHER discloses composition for nanocomposite material comprising block copolymer, clay and matrix copolymer, the block copolymer of FISCHER has block (A) compatible with the clay component and block (B) compatible with the matrix resin. block (A) is of hydrophilic nature and it includes polyethylene oxide and the number average molecular weight of the polyethylene oxide is in a range of 100-5,000, structural unit (B) is compatible with matrix polymer and can have the same monomers as the matrix polymer, one of which may be polyamides as one of the species of structural unit (B), including the number average molecular weight of the polyamides would then be 100-20,000. The Examiner also indicates that the polyether segment of the block or graft co-polymer of the prior art of FISCHER has at least 2 monomeric units and polyamide segment has the same or larger amount of monomers as polyether segment, the segment (A) contains 5-20 monomeric units and therefore the ratio between polyether segment and polyamide segment is in a range of 1:1 - 95:1 to

1:1 -1:95, the matrix polymer of the prior art of FISCHER is selected from polyesters such as polyethylene terephthalate, polyamides, polyolefins such as polyethylene or polypropylene and the like, the clay component is smectite clay either natural or synthetic and it is selected from clays such as montmorillonite, the clay is utilized in an amount ratio of 0.01-1 to 100:1 with the block copolymer, the ratio of clay to matrix polymer is 1:200 to 2:1, based on the ratios depicted by the prior art of FISCHER, the amount of matrix polymer is at least 50%, the clay component is first modified with block copolymer and mixed with suitable matrix polymer to form nanocomposite, intercalation of the block component between the clay platelet is a well-known process, which occurs in his type or reaction and upon shearing action with matrix polymer such clay can further exfoliate, the resulting composition has tensile modulus higher by 10 - 100 % (examples 1 and N), the components of the prior art of FISCHER overlap with the components of the present invention in both types of polymers and clays and the amounts, the limitation of the surface resistivity would also overlap, the prior art of FISCHER discloses that already patented composition can be utilized to make any type of molded article and the composition of the prior art of FISCHER discloses PEO/PA block or graft copolymers intercalated in between the clay component and mixed with matrix polymer to form a moldable article. Therefore, the Examiner indicates that, in the light of the above discussion, it would have been obvious for one having ordinary skill in the art at the time of the instant invention to utilize the prior art of FISCHER and thereby obtain the claimed invention. The prior art of FISCHER renders the present invention obvious because it teaches and thereby suggests using PEO and PA as block of one copolymer.

Fischer discloses a nanocomposite material on the basis of clay having a layered structure and a cation exchange capacity of from 30-250 milliequivalents per 100 gram, a polymeric matrix and a block copolymer or a graft copolymer, which block copolymer or graft copolymer comprises one or more first structural units (A), which are compatible with the clay and one or more second structural units (B), which are compatible with the polymeric matrix. Fischer fails to disclose the use of the nanocomposite material in an extruded imaging support. Fischer also fails to disclose the use of polyamide polymers that

can be utilized to make polyether block polyamide copolymers capable of intercalating clay.

The present invention relates to an extruded imaging element comprising a support of intercalated clay intercalated with a polyether block polyamide copolymer.

To establish a prima facia case of obviousness requires, first, there must be some suggestion or motivation, either in the reference itself, or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant's disclosure. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998).

Fischer teaches nanocomposite materials comprising block copolymer, clay and matrix copolymer, the block copolymer of FISCHER has hydrophilic block (A) compatible, including polyethylene, with the clay component and block (B) compatible with the matrix resin and having the same monomers as the matrix polymer, one of which may be polyamides for use in packaging and construction materials. Fischer fails to mention the use of intercalated clay, intercalated with a polyether block polyamide copolymer, for use as an extruded base or support for an imaging element. As a result, Fischer fails to suggest modification of the reference to produce an extruded base for an imaging element comprising intercalated clay, intercalated with a polyether block polyamide copolymer as presently claimed. Fischer also fails to teach the utility of just the polyether block polyamide copolymer – intercalanted clay as an extruded article, without the addition of matrix polymer (present claim 37).

Fischer also offers no expectation that intercalated clay, intercalated with a polyether block polyamide copolymer, may be used as an extruded base or support for an imaging element. There are a very large number of clays, block copolymers and matrix copolymers disclosed in Fischer and known to those skilled in the art. Although FISCHER teaches that the nanocomposite composition of the prior art can be utilized to make molded articles of any kind, in the absence of any suggestion in Fischer to extrude an

imaging base utilizing the claimed nanocomposite material, at most, it might only be "obvious to try" the combination of the present invention for extruding an imaging base. In addition, Fischer teaches in col.3, lines 61 to 66 that

> "*The structural units (B) are compatible with the polymeric matrix. By this is meant that these units in themselves, i.e. not in the copolymeric form with the structural units (A), are excellently mixable with the material of the polymeric matrix. It is also possible that the nature of the structural units (B) is the same as the nature of the polymeric matrix.*"

In the present inventive example, polyethylene terephthalate is used as the matrix polymer. Polyamide and polyether are neither "*excellently mixable*" nor of the " *same as the nature of the polymeric matrix*", but are only marginally miscible in PET. Therefore, Fischer teaches away from the present invention. Fischer also fails to provide a likelihood of success for the use of polyether block polyamide copolymer – intercalanted clay as an extruded article, without the addition of matrix polymer (present claim 37). Therefore, there is no reasonable expectation of success found in the cited reference.

Finally, Fischer fails to make mention of imaging elements, uses therein, or production of an extruded imaging element and fails to teach a polyether block polyamide copolymer – intercalanted clay as an extruded article, without the addition of matrix polymer (present claim 37).

In addition, the present invention provides a surprising result. As noted on page 28, lines 16 – 22, the intercalated clay, intercalated with a polyether block polyamide copolymer, as presently claimed has antistatic properties, a particularly useful property in photographic supports.

Rejection Of Claims 48, 49 and 51 Under 35 U.S.C. §103(a):

The Examiner also rejects Claims 49, 51 under 35 U.S.C. 103(a) as being unpatentable over FISCHER (US 6,579,927) as applied to claims 1-34, 37-45, 48-51 above, and further in view of KURATSUJI (US 5,939,183), as the difference between the present invention and the disclosure of the prior art of FISCHER is explicit limitations of the polyamide polymers that can be utilized to make PEO/PA block copolymers and KURATSUJI discloses PEO/PA block copolymer utilized in film forming, disclosing that the polyamide block is selected from monomers that are both aliphatic and aromatic, therefore, utilizing

the polyamide made from the polymers of KURATSUJI allows one of ordinary skill in the art to form moldable and extrudable article and it would have been obvious to one having ordinary skill in the art at the time of the instant invention to utilize the PEO/PA copolymer of KURATSUJI and in the composition of FISCHER to obtain the claimed invention.

Kuratsuji discloses a plastic film possessing improved permeability to water vapor and high heat shielding property, which is characterized by water vapor permeability of 100 to 25, 000 g/m^2 /24 hr, light transmittance of 20 to 95% and infrared transmittance of 5 to 90% and made of at least one material selected from a group comprising polyetherpolyamide block copolymer, thermoplastic polyester elastomer and thermoplastic polyurethane and containing flat inorganic particles, preferably mica, coated with a substance having high refractive index, particularly for agricultural uses, which cuts infrared rays to prevent elevation of interior temperature.. Kuratsuji fails to disclose extruded imaging bases for photographic application. Kuratsuji fails to mention clay particles or the intercalation of clay particles. Kuratsuji also fails to disclose any information relating to the use of polyether block polyamide copolymers to intercalate layered materials.

The present invention relates to an extruded imaging element comprising a support of intercalated clay intercalated with a polyether block polyamide copolymer, with or without a matrix polymer. As amended, when a matrix polymer is present, the matrix polymer is a polyolefin or a polyester.

The reference to Kuratsuji cited by the Examiner comprises non-analogous art. In order to rely on a reference as a basis for rejection of Applicant's invention, a reference must either be in the field of the Applicant's endeavor or reasonably pertain to the particular problem with which the invention is concerned. Here, the cited reference to Kuratsuji is not in Applicant's field of endeavor, that is, the extruded base of a photographic element. Neither is the references reasonably pertinent to intercalation or intercalation of clay with a polyether block polyamide copolymer, as Kuratsuji deals with mica and fails to mention intercalation.

Patent and Trademark Office Classification is some evidence of analogy, but similarities and differences in structure and function carry more weight. MPEP 2141.01(a). The reference to Kuratsuji cited by the Examiner is

contained in a different classification than either the present invention or the reference to Fischer. Kuratsuji is contained in US Class 428/324 (Stock material or miscellaneous articles / Mica); Fischer is contained in 524/445 (Synthetic resins or natural rubbers -- part of the class 520 series / Clay, e.g., fullers earth, fire clay, etc.).

Critical differences exist in function between Applicant's invention, Fischer and Kuratsuji. The invention of Kuratsuji functions to cut infrared rays to prevent elevation of the interior temperature. The invention of Fischer functions to provide a modified clay for incorporation in a polymeric matrix for producing moldable articles. The present invention functions to produce a strong, extrudable base for imaging elements which also demonstrates properties important to photographic applications.

Further there are important structural differences between the present invention and the prior art which are evidence of non-analogousness. The invention of Kuratsuji relates to the use of specialty inorganic mica filler in polymer for agricultural usage. The invention of Fischer relates to nanocomposite materials formed by intercalating a clay with a copolymer for incorporation into a polymeric matrix for use in packaging and construction materials. The present invention relates to an intercalated clay for use as the extruded base of an imaging element. For example, Kuratsuji requires no intercalation of the inorganic filler. Neither the present invention nor Fischer would be operable without intercalation. Since the cited reference to Kuratsuji is contained in different Classifications, serves a different purpose and function and contains distinct structural differences, the Applicants respectfully suggest that the cited reference to Kuratsuji are non-analogous art, and do not support a rejection based on obviousness.

Assuming for argument, that the cited references are analogous art, consideration must be given to Applicant's invention and the references as suggested by the Examiner, when taken as a whole. In order to support a finding or prima facia obviousness, references must contain a suggestion or motivation to combine, must give some reasonable expectation of success, and must teach or suggest all claim limitations. As discussed above, the Applicants believe that Fischer fails to discuss or suggest the specific limitations of the present invention, fails to teach or suggest modification of the reference and fails to provide any

likelihood of success. Kuratsuji also fails to teach or suggest modification of the references, either alone or combined, as Kuratsuji fails to teach intercalation at all, as well as failing to teach the intercalation of clay. Kuratsuji also fails to teach the utility of just the polyether block polyamide copolymer – intercalanted clay as an extruded article, without the addition of matrix polymer (present claim 37). In addition, Kuratsuji fails to supply any likelihood of success in intercalating clay for use in an extruded imaging element, since Kuratsuji teaches the use of un-intercalated mica. Kuratsuji also fails to provide a likelihood of success for the use of polyether block polyamide copolymer – intercalanted clay as an extruded article, without the addition of matrix polymer (present claim 37). Finally, Kuratsuji fails to teach the intercalation of clay with a polyether block polyamide copolymer for use as an extruded imaging element and fails to teach a polyether block polyamide copolymer – intercalanted clay as an extruded article, without the addition of matrix polymer (present claim 37).

Since the cited references when considered as a whole do not teach, suggest or disclose the present invention when considered as a whole with all limitations, the Applicants respectfully suggest that the cited references do not support a rejection based on obviousness.

Rejection Of Claims 14-35, 37-46, and 49-51 Under 35 U.S.C. §103(a):

The Examiner has rejected Claims 14-35, 37-46, 49-51 under 35 U.S.C. 103(a) as being unpatentable over O'NEIL (WO 01/034685), indicating that O'NEIL discloses clay/polymer composite that can be formed into an article by melt blending and extrusion, the clay used is Montmorillonite type clay that can be intercalated with ammonium type compounds, the intercalating polymer is block copolymers, Example 2 specifically discloses polyamide ether block copolymer, Claims 8 and 9 further teach that the polyamide block is nylon block the elastomeric block is polyether, polyester and the like, Example 2 of O'NEIL further discloses use of second polymer, which is nylon, specification on page 5 further teaches use of polyolefins, polyesters, the composition of O'NEIL can be utilized to make flexible extruded article having improved mechanical properties, and therefore, in the light of the above disclosure it would have been obvious to one having ordinary skill to utilize composition of O'NEIL as a base or a substrate and therefore obtain the claimed invention.

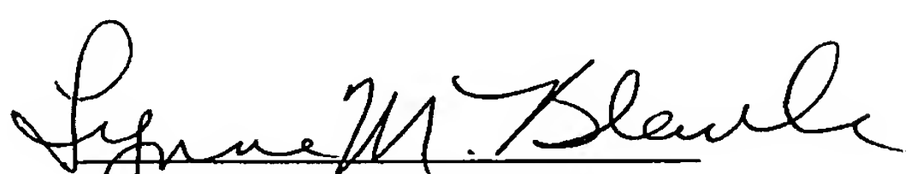
O'Neil discloses nano clays for use in thermoplastic/ thermoset polymer materials, wherein the nano clay may be combined with another chemical ingredient, such as a crosslinking agent, to thereby provide a unique and overall synergistic effect on mechanical property performance.

In order to support a finding or prima facia obviousness, references must contain a suggestion or motivation to combine, must give some reasonable expectation of success, and must teach or suggest all claim limitations. The Examiner indicates that the reference to O'Neil teaches that the clay used is Montmorillonite type clay that can be intercalated with ammonium type compounds and that the intercalating polymer is block copolymers. It should be noted that the Examiner indicates intercalation with a material other than the presently claimed block copolymer, that is ammonium type compounds. Also, O'Neil pg. 5, lines 5-10 indicate that the block copolymers are used as matrix polymers, not intercalants for the clay. O'Neil fails to teach or suggest that block copolymer, specifically, polyether block polyamide copolymers can be used as clay-intercalants. O'Neil also fails to teach the utility of just the polyether block polyamide copolymer – intercalanted clay as an extruded article, without the addition of matrix polymer (present claim 37). Neither does O'Neil provide any likelihood of success for the use of block copolymer, specifically, polyether block polyamide copolymers intercalants, teaching instead that, to be used in block copolymers, the clay is already intercalated by some other material. O'Neil also fails to provide a likelihood of success for the use of polyether block polyamide copolymer – intercalanted clay as an extruded article, without the addition of matrix polymer (present claim 37). Finally, O'Neil fails to teach the intercalation of clay with a polyether block polyamide copolymer for use as an extruded imaging element as presently claimed and fails to teach a polyether block polyamide copolymer – intercalanted clay as an extruded article, without the addition of matrix polymer (present claim 37).

Since the cited reference to O'Neil, when considered as a whole, does not teach, suggest or disclose the present invention when considered as a whole with all limitations, the Applicants respectfully suggest that the cited reference does not support a rejection based on obviousness.

It is believed that the foregoing is a complete response to the Office Action and that the claims are in condition for allowance. Favorable reconsideration and early passage to issue is therefore earnestly solicited.

Respectfully submitted,



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